GUIDELINES

FOR THE PREPARATION OF

AN ENVIRONMENTAL IMPACT STATEMENT

ON AIR TRANSPORTATION PROPOSALS FOR THE TORONTO AREA

Issued by:

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PREFACE

Transport Canada has proposed a two-stage plan to relieve air traffic congestion in the Toronto area. The first stage of the plan, the addition of two runways at Lester B. Pearson International Airport (LBPIA), is proposed as a medium-term solution. The second stage of the plan will contain proposals to serve aviation in the Toronto and Southern Ontario areas in the long term.

This document, prepared by the Environmental Assessment Panel reviewing air transportation proposals in the Toronto area, contains the guidelines for the preparation of an Environmental Impact Statement (EIS) concerning Transport Canada's medium-term proposal. The responsibility for preparing the EIS lies with the proponent, Transport Canada. The Guidelines identify the priority issues and concerns which the Panel has determined should be addressed in order to examine the environmental and socio-economic issues associated with the medium-term proposal.

This document has been prepared following public input at scoping meetings in March-April, 1990, and written comments on draft guidelines issued in May.

When the draft guidelines were issued for comment, the Panel also wrote to the Deputy Minister of Transport, Mr. Shortliffe, outlining in an attachment several issues raised by the public during the scoping meetings related to the existing operations of LBPIA and communications between Transport Canada and stakeholders. The attachment offered suggestions regarding ways of approaching these issues.

Some participants in the review provided comments on the attachment in their response to the draft guidelines. These comments have been passed to Transport Canada for their use in responding to the attachment.

The attachment also addressed the relationship between medium and long-term plans. In the Panel's view there are clear and inevitable linkages between short, medium and long-term options for meeting air transportation demand at LBPIA and in the Southern Ontario region. These linkages must be identified and addressed in the EIS.

Transport Canada has indicated that Master Plans for LBPIA and the Southern Ontario region would not be available during the first stage of the assessment process. As a result, the EIS must, of necessity, cope satisfactorily with this shortcoming by providing information to determine the demand for aviation services in Southern Ontario, the capacity of LBPIA, and then the need for

expansion at LBPIA as compared with other reasonable alternatives to handle air transportation demand in Southern Ontario. This is addressed more specifically in sections 4 and 5 on Project Need and Alternatives.

1.0 INTRODUCTION

The Environmental Assessment and Review Process (EARP) of the Government of Canada requires that proposed projects that are likely to have significant adverse environmental effects be submitted for public review to an Environmental Assessment Panel appointed by the Minister of the Environment. In November, 1989, a Panel was appointed to undertake this review.

The input received by the Panel at the scoping meetings held in March-April 1990 served as a basis for the development of draft guidelines. A 30-day review period was established for receipt of any comments on the draft guidelines. Forty-eight submissions were received and were considered by the Panel in finalizing the guidelines.

These guidelines are intended to provide guidance and instruction to Transport Canada in its preparation of the EIS for the proposal to construct two additional runways at LBPIA. When completed, the EIS will be reviewed by the Panel and the public. When the Panel is satisfied that the EIS responds adequately to the guidelines, the Panel will hold Public Hearings. At the Public Hearings, all interested parties will have an opportunity to present their views to the Panel on the environmental and socio-economic aspects of the proposed project. Transport Canada representatives will be present at the Public Hearings to answer questions pertaining to the proposed project.

Further public involvement in the environmental assessment review process will occur with Transport Canada during its preparation of the EIS and with the Panel through submission of written comments on the EIS and participation at the Public Hearings.

Following the Public Hearings the Panel will present its recommendations concerning the medium-term proposal in a report to the federal Ministers of the Environment and Transport. The Minister of Transport, after discussion with the Minister of the Environment, will then decide if the project should proceed and, if so, under what conditions.

A similar process will then be followed to review Transport Canada's long-term proposals.

The EIS for the proposed additional runways at LBPIA should contain the information described in the following sections of these guidelines. If Transport Canada does not respond to any one of the following elements it must provide a rationale for not doing so.

In order to complete an effective environmental assessment review, the Panel requires full exploration of certain critical elements related to the proposal. LBPIA is a busy airport, that has and will continue to have both positive and negative environmental and socio-economic impacts on the surrounding area. It is therefore important that the current situation and the future changes, with or without the proposed runways, be described as clearly as possible, to enable the Panel to make an informed judgement regarding a course of action to be recommended to government.

2.0 SUMMARY

The EIS should begin with a summary of the document and its findings. The summary should allow the reader to obtain a concise idea of the content of the EIS and to focus on items of specific interest. It should be understandable to the public and lend itself to easy use by those requiring a rapid appraisal of the proposed project.

The summary should also describe the process that led to the referral of Transport Canada's proposals for air transportation in the Toronto area to the Minister of the Environment.

The EIS summary should be included as part of the EIS, and should also be suitable for wide distribution as a document separable from the EIS itself. A sufficient number of copies should be produced for agency and public use. The number of copies required will depend upon anticipated demand and will be determined at the time of publication.

Information presented in the summary should include:

1. a description of current air traffic problems encountered at LBPIA;

2. a description of future air travel demand and matching air facility requirements;

3. a description of the need for the proposed project together with the supporting rationale and the costs and benefits to airport users, local communities, the province and the country;

4. a concise evaluation of the alternatives considered, and an explanation as to why each is or is not considered to be a reasonable solution to the congestion at LBPIA;

5. a brief description of the proposed project and its specific location;

6. a concise summary of the major environmental conditions in the area which may affect or be affected by the project;

7. a description of the environmental and socio-economic impacts of the proposed project, the mitigation measures to be implemented, and the significance of any residual effects;

8. a brief description of the methodology used to assess the impacts, in particular the major assumptions that influenced the organization of the study;

9. a description of any limitations in the EIS created by information deficiencies; and,

10. a listing of the team members that prepared the study.

3.0 PROJECT SETTING

The project setting should provide information on the historical development of LBPIA, its relationship to local and regional communities and ground transportation systems and current air traffic and factors that influence air traffic, in order to provide the context for the examination of means to address air traffic congestion in the Toronto area.

Specifically, information presented should include, but not be limited to:

3.1 a brief description of the development of the LBPIA facility from site selection in 1937 to its existing configuration;

3.2 a description of the precise location of LBPIA relative to its neighbouring urban development, local and regional ground transportation facilities and other airports in Southern Ontario, and the structure of its surrounding airspace, including standard flight paths; maps, air photos and other descriptive means should be used as necessary;

3.3 a description of the development of air traffic at LBPIA, as measured in terms of passengers, cargo and aircraft movements, categorized by scheduled airline, charter, cargo and general aviation (jet and other aircraft) movements; data presented for current air traffic at LBPIA should include:

3.3.1 the typical distribution of flight arrivals and departures throughout a 24-hour period;

3.3.2 the typical distribution of flight arrivals and departures throughout the week;

3.3.3 the nature of the shifts in these typical distributions that occur during peak travel periods; and,

3.3.4 representative runway utilization for arrivals and departures, together with an indication of how runway utilization changed in May 1988 with the introduction of simultaneous independent parallel runway operations;

3.4 an explanation of the significant factors, not directly related to the demand for air services, that influence the current air traffic levels at LBPIA, including:

3.4.1 the integrated nature of the airspace in the southern Ontario area and how the airways serving airports such as LBPIA, Hamilton, Buttonville, Toronto Island and Oshawa are all part of the same integrated air traffic management system;

3.4.2 the actual and desired air traffic controller staffing levels and their relationship to the flow of aircraft to and from LBPIA, together with a description of the procedures followed to provide air traffic safety and control during periods of under-staffing;

3.4.3 the capabilities of air traffic control and navigation equipment; and,

3.4.4 the representative weather (wind speed and direction, ceiling and horizontal visibility) conditions and their frequencies encountered at LBPIA, by season, and how these conditions have influenced runway usage at LBPIA;

3.5 a review of Transport Canada's policies and procedures and the relevant plans and studies that have influenced or may influence the development of air traffic at LBPIA including:

3.5.1 the findings of the Gibson Airport Inquiry concerning the expansion of LBPIA and the development of other airports in the Southern Ontario region; and,

3.5.2 an explanation of how and why the conditions and policies that had previously led Transport Canada to reject the suggestion of building additional runways at LBPIA have changed to the point where the proposal for two new runways is now preferred.

4.0 PROJECT NEED

4.1 Demand For Aviation Services

The description of need for the proposed project in the EIS should begin with an analysis of present and future demand for air travel in the several markets served by Toronto area airports. This demand estimate should be "unconstrained", in the sense that it reflects the total demand for air service in the absence of movement caps or other controls on the provision of aviation services.

Demand estimates should be provided for specific future years that bound the medium- (2-5 yrs) and long-term (> 5 yrs.) time periods as defined by Transport Canada. The methodology used to prepare the forecasts, and the validity of each assumption used, should be outlined. In addition, a sensitivity analysis of the effects of changes in the assumptions should be provided.

The analysis of demand should include, but not be limited to:

4.1.1 projections and assessments related to demographics, economic conditions, changes in business practices, the effects of increased continental and global competition, and the growing size and economic importance of the recreation and tourism industries;

4.1.2 a specific review of anticipated business and consumer demand for travel from residents of the Toronto area;

4.1.3 a breakdown of demand forecasts for specific passenger and cargo markets served by LBPIA and other regional airports, including within Ontario, within Canada, transborder, Europe, the Pacific Rim and other international markets;

4.1.4 an examination of current and projected demand to and from the regional communities that use LBPIA as their "hub" airport such as Windsor, London, Kingston, North Bay, Sault Ste. Marie, Sudbury, Thunder Bay, Timmins, Sarnia, and communities in the Northern United States; and,

4.1.5 an examination of how the development and use of other modes of transportation could change the projected demand for aviation services at Toronto area airports, including the potential impact of projects currently under public discussion, such as a Montreal-Toronto high speed rail link.

4.2 Estimated Aircraft Movements

The total demand for travel by air in the Toronto region should be translated into the demand for actual aircraft movements at LBPIA.

As part of this analysis, the EIS should include:

4.2.1 an explanation of the process and assumptions used to convert passenger travel and cargo transport demand into aircraft movements;

4.2.2 assumptions used to determine the peaking of aircraft movements during the day and week;

4.2.3 a breakdown between movements for international traffic under bilateral agreements, transborder traffic, domestic traffic, traffic to and from regional spoke communities, charter traffic, general aviation (jet and other aircraft), and cargo;

4.2.4 the effect of policies and management procedures (e.g. peak-period pricing and capping of aircraft movements) used to encourage aircraft to seek alternative airports; and,

4.2.5 an explanation of how the various airline operating strategies affect aircraft movement at LBPIA, taking into account:

4.2.5.1 the use of a "hub and spoke" feeder system;
4.2.5.2 the substitution of connections at LBPIA for non-stop flights between medium-sized centres;
4.2.5.3 the carriage of cargo in passenger aircraft;
4.2.5.4 the use of markedly different aircraft fleets to serve smaller communities; and,
4.2.5.5 airline use of other Toronto area airports for commercial, charter and cargo flights.

4.3 Demand Forecast Comparison

The travel demand and aircraft movement estimates for air travel and aircraft operations at LBPIA developed in sections 4.1 and 4.2 should be compared with those prepared and published since 1968 and with actual experience since 1968. The reasons for any differences between current estimates, previous estimates and actual experience should be explained.

4.4 Airport Capacity

The current hourly, daily and annual capacity of LBPIA should be established. Separate capacity estimates should be prepared for the following components of LBPIA operations: the airspace surrounding LBPIA, the runways, the taxiway system, the apron and ramp areas, and the terminals.

In describing the capacity, the EIS should:

4.4.1 provide the assumptions and methodology used to calculate capacity, including those concerning air traffic control staffing and air navigation, and air traffic control equipment, and provide a description of the extent to which productivity improvement measures have been assumed;

4.4.2 compare the methods used by other major international airports of similar configuration, or which serve similar traffic demands, or which utilize independent parallel runway systems to calculate and achieve their operational capacities; and,

4.4.3 include an evaluation of innovative schemes such as those used to handle turbo-prop aircraft, and to permit simultaneous use of intersecting runways.

4.5 Project Need: Demand / Capacity Comparison

The need for the proposed project should be established on the basis of comparisons between the demand for aircraft movement and the capacity of the current facilities at LBPIA.

To establish the above comparison the EIS should provide the following information:

4.5.1 existing demand and current capacity on an hourly, 24-hour and annual basis;

4.5.2 the demand at the specific future years identified in section 4.1 and the capacity of LBPIA with and without the proposed new runways; and,

4.5.3 the effect of night restrictions on demand/capacity.

5.0 ALTERNATIVES

5.1 Basic Characteristics of the Proposed Project and Alternatives

An examination of the basic characteristics of the proposed project and all of the alternatives including the "no action" alternative should be presented in the EIS. This examination should include, for the proposed project and each alternative, a relative comparison of environmental, social, and economic impacts.

Alternatives to be considered should include, but need not be limited to:

5.1.1 no action, i.e., no addition of runways or productivity improvements at LBPIA;

5.1.2 improvements in the productivity achievable with the existing LBPIA 3-runway configuration by various means, including:

5.1.2.1 new taxiway systems and taxiing procedures;
5.1.2.2 revised runway use and operational procedures;
5.1.2.3 improved air traffic control operational procedures;
5.1.2.4 increased air traffic controller complement;
5.1.2.5 improved air traffic control equipment;
5.1.2.6 expansion of the 25-mile Toronto terminal airspace zone; and
5.1.2.7 adjustments in the management of aircraft on the basis of performance;

5.1.3 diversion of specific air traffic from LBPIA to other regional airports, improved as necessary to serve the diverted traffic; this may include the expansion or development of other airports' facilities in lieu of expansion at LBPIA, and may further include the provision of ground transportation links between regional airports;

5.1.4 diversion of specific air traffic from LBPIA to other modes of transportation, including rail and bus;

5.1.5 addition of only one runway at LBPIA; more than one single-runway option should be studied;

5.1.6 development or construction of a second major airport to serve the Toronto region in conjunction with LBPIA; and,

5.1.7 development or construction of a new major airport to replace LBPIA.

On the basis of this examination, the EIS should identify the reasonable alternatives that have the potential to satisfy the air traffic congestion problems in the Toronto area. The reasons for rejection of any alternative must be clearly stated.

5.2 Analysis and Comparison of Reasonable Alternatives

5.2.1 Each reasonable alternative, and the "no action" alternative, should be compared with the proposed project. The comparison should be summarized in matrix form and should include, but not be limited to:

5.2.1.1 implementation timing;
5.2.1.2 ability to meet air traffic demands;
5.2.1.3 compatibility with future plans for aviation services in the Southern Ontario region;
5.2.1.4 impact on airspace management;
5.2.1.5 direct and indirect environmental, social and economic impacts, including benefits and disbenefits;
5.2.1.6 safety, monitoring and mitigation measures and the costs associated with residual impacts such as aeronautical noise; and,
5.2.1.7 general cost estimates, including design, construction and operational costs, and off-setting operational revenues;

The matrix should include the examination of each of the applicable elements of sections 6 to 11 for each reasonable alternative, the no action alternative and the proposed project.

5.2.2 The results and conclusions of the analyses in sections 4 and 5 above, should be summarized in a clear and concise manner.

Note: Given the Panel's terms of reference, the following sections have been written to address Transport Canada's proposed project, i.e., construction of two additional runways at LBPIA. However, the following sections will also apply to any feasible alternative(s) selected following the analysis in section 5.2.

6.0 PROJECT DESCRIPTION

6.1 Proposed Facilities

6.1.1 The extent, magnitude, capacity and exact location of the proposed facilities and how they relate to existing LBPIA facilities for passengers, cargo, aircraft, and related activities should be detailed, including, but not limited to:

6.1.1.1 the airspace system around the airport;
6.1.1.2 the terminal-area navigation aids;
6.1.1.3 the runway alignments;
6.1.1.4 the runway separations;
6.1.1.5 the runway lengths;
6.1.1.6 the system of taxiways;
6.1.1.7 the apron and gate system;
6.1.1.8 the terminal buildings;
6.1.1.9 facilities for general aviation;
6.1.1.10 the cargo facilities; and,
6.1.1.11 the internal ground transportation system within the airport boundaries.

6.1.2 The existing support services and future requirements should be described and should include, but not be limited to:

6.1.2.1 municipal services (water, hydro, sewage disposal, garbage, fire protection, policing, emergency services);
6.1.2.2 airport ground access;
6.1.2.3 automobile parking;
6.1.2.4 communications systems;
6.1.2.5 protection systems for electro-magnetic interference;
6.1.2.6 waste management facilities; (see section 7.4)
6.1.2.7 fuel storage and distribution;
6.1.2.8 aircraft maintenance facilities;
6.1.2.9 de-icing and re-de-icing facilities;
6.1.2.10 aircraft parking and hanger facilities;
6.1.2.11 airline operations facilities (e.g., food, dispatch, training); and,
6.1.2.12 aviation weather support services.

6.1.3 The proposed construction and site renovation activities should be described giving timetables for starting and finishing each phase, and outlining the methods and procedures to be followed. The construction phases should be categorized as pre-construction, construction and rehabilitation of disturbed areas. The effects on air services during each construction phase should be determined.

6.2 Airport Usage

All anticipated future operational activities and scenarios at LBPIA that would result from the proposed project should be described in terms of features such as runway use, aircraft movements, aircraft mix, training activities, standard flight paths and night operations. Operating policies which will govern these activities should be described.

Data presented for future air traffic at LBPIA should include:

6.2.1 the expected distribution of flight arrivals and departures and the preferred runway utilization throughout the day (24-hour period), week and month; and,

6.2.2 the nature of the shifts in these expected distributions that occur during peak travel periods.

7.0 ENVIRONMENTAL IMPACTS

7.1 Noise

The EIS should provide detailed information concerning the changes to the noise environment surrounding LBPIA that would result from the proposed project. This issue is recognized as one of the most significant public concerns associated with not only the addition of runways at LBPIA, but with the existing operations at the airport. It is intended that the noise impact information be presented in a manner that is understandable and useful to both the public and technical readers.

The EIS should:

7.1.1 select and describe suitable cumulative noise models using commonly known noise metrics or other techniques to provide reasonable estimates of noise contours associated with the full range of potential airport operations and weather conditions including, but not limited to:

7.1.1.1 ambient noise conditions;
7.1.1.2 a range of aircraft operations;
7.1.1.3 ramp and maintenance activities;
7.1.1.4 ground-level effects; and,
7.1.1.5 night operations;

7.1.2 relate this predicted information to actual baseline measurements taken in the vicinity of LBPIA for existing operations;

7.1.3 present a baseline noise profile that is representative of current operations;

7.1.4 describe the changes to this profile, with and without more runways, that would result from;

7.1.4.1 additional flights;
7.1.4.2 alternative arrival and departure flight routes and procedures;
7.1.4.3 different aircraft mixes;
7.1.4.4 changes in aircraft fleet (e.g., entry of more Stage 3 aircraft);
7.1.4.5 modifications to flight scheduling;
7.1.4.6 various aircraft operations, including turning manoeuvres, application of reverse thrust, take-off roll and climb-out; and,
7.1.4.7 changes in ground-based activity, including maintenance, engine start-up and run-up and increased motor vehicle traffic;

7.1.5 provide sufficient detail for comparative evaluation of the social and environmental impacts of five conditions:

7.1.5.1 the use of the present runway system with present levels of aircraft activity;
7.1.5.2 the use of the present runway system with projected future levels of aircraft activity in the years chosen in section 4.1;
7.1.5.3 the same as condition 7.1.5.2 above using the proposed runway system;
7.1.5.4 the same as condition 7.1.5.3 above with various combinations of mitigating procedures and restrictions applied; and,
7.1.5.5 the use of the proposed runway system operating at its maximum capacity;

7.1.6 express noise impacts of individual flights in steps of 5 DbA, starting at the ambient background level appropriate to the type of land use and the time of day and indicate the implications of each step in terms of quality of life, both indoors and outdoors, enjoyment of property, sleep disruption, health and land use planning;

7.1.7 estimate the number of households currently exposed to various ranges of noise levels and the number of households that would be exposed to similar ranges as a result of the proposed project;

7.1.8 include the analysis of the effects of various meteorological conditions, including wind direction and strength, cloud cover and relative humidity as well as the localised effects of the built environment; and,

7.1.9 describe and evaluate the effectiveness of physical and operational measures to reduce and mitigate the impact of noise on communities in the vicinity of the airport including the measures that would be required to ensure that noise exposure does not exceed identified thresholds of acceptability established for residential areas.

7.2 Air Quality

The contribution of the existing airport activity on present air quality should be determined and any projected change associated with the proposed project should be identified. This should include the effects of air and ground based activity under varying meteorological conditions, and the cumulative effects of these activities related to those arising from the close proximity of LBPIA to industrial land uses and major highway systems.

The EIS should:

7.2.1 calculate the relative contribution (e.g., percentage) of present airport activities (ground service vehicles and aircraft) to the existing air quality in the surrounding area;

7.2.2 calculate potential impacts on air quality at and around LBPIA of operational changes if the proposed project is approved, considering:

7.2.2.1 possible changes in aircraft movement patterns on the ramps, taxiways, and in the air;

7.2.2.2 the additional air traffic at and around LBPIA; and,

7.2.2.3 the difference in overall engine emissions in the airport area between the current fleet and level of aircraft operations and the fleet and level of aircraft operations that would be expected at LBPIA in the future with the proposed project;

7.2.3 base the comparison of existing and future air quality on:

7.2.3.1 measurements of NO_x, SO_x, ozone and particulates in the communities immediately surrounding LBPIA; and,

7.2.3.2 calculations of trace volatile organics and other pollutants emitted based on fuel composition and consumption;

7.2.4 estimate the amount and assess the significance of green house gas emissions and the changes that would occur in them if the proposed project is implemented;

7.2.5 provide a relative comparison of the changes in physical indicators such as visibility and odour that would occur if the proposed project is implemented; and,

7.2.6 relate the expected air quality to federal Ambient Air Quality Objectives, as well as to relevant provincial and local objectives or standards.

7.3 Water and Soil Quality

The total loading caused by the existing airport on Etobicoke and Mimico Creeks and future loadings that would be caused by the construction and operation of the proposed project should be determined.

The EIS should:

7.3.1 describe the existing hydrology at the airport, and existing baseline conditions in both Etobicoke and Mimico Creeks;

7.3.2 calculate the current contribution of LBPIA to the water quality of Etobicoke and Mimico Creeks on the basis of, but not limited to, total phosphorus, suspended solids, dissolved oxygen and, during the de-icing season, glycol;

7.3.3 estimate the potential impact of the proposed project on the watercourses, taking into consideration site construction activities and final site landscaping and additional surface run-off from new runways and flight service areas;

7.3.4 outline mitigative measures planned, including an appropriate Stormwater Management Plan to protect the ecological integrity of the creeks and local soil conditions under normal operating conditions;

7.3.5 describe contingency plans to respond to any emergency such as spills of aircraft de-icing fluid, aviation fuels and ground service vehicle fuels and lubricants and any other hazardous substances; and,

7.3.6 relate the expected water quality to relevant federal, provincial and local water objectives and standards.

7.4 Waste Management

Given the requirements for waste collection and disposal, the EIS should provide a description of the following points:

7.4.1 the methods currently used at LBPIA to manage wastes from domestic and international flights, passengers and employees during the course of their normal activities at the airport, and spills of solid and liquid pollutants;

7.4.2 the present waste volumes generated and the projected volumes that would result from the proposed project;

7.4.3 any additional requirements that would arise as a result of the proposed project; and,

7.4.4 the methods proposed to ensure compliance with relevant federal, provincial and local standards and objectives.

Mitigation measures should be discussed in terms of their effectiveness and practicality.

7.5 Natural Environment

The proposed project may require significant alteration to the present open areas at LBPIA, and may require major in-filling of, or structural additions to, the ravine lands bordering Etobicoke Creek. Also, additional taxiing and flight operations, new flight paths, night lighting, noise and habitat removal may have an effect in the area.

7.5.1 The EIS should review existing information and describe the significance of:

7.5.1.1 these areas as wildlife habitats;
7.5.1.2 Etobicoke creek's potential for fish habitat;
7.5.1.3 the local natural environment (e.g., vegetation and natural habitats).

7.5.2 The EIS should describe any potential impacts on:

7.5.2.1 these areas as wildlife habitats;
7.5.2.2 Etobicoke creek's potential for fish habitat;
7.5.2.3 the local natural environment (e.g. vegetation, potential increases in bird strikes and natural habitats).

Mitigative measures should be discussed in terms of their effectiveness and practicality.

7.6 Historical Environment

Portions of the 1,729 hectare LBPIA site were used for non-aviation purposes for many years prior to the purchase of the lands by the federal government. The EIS should describe the prior uses of LBPIA lands and should assess:

7.6.1 the archaeological potential of the site;
7.6.2 whether artifacts of historical importance may be lost, destroyed or rendered inaccessible as a result of the proposed project at LBPIA; and,
7.6.3 the ability to provide for continued public access to the cemetery located on the 5th line.

The applicable provincial legislation and guideline requirements should be met with respect to the heritage resources assessment.

8.0 SOCIAL AND ECONOMIC IMPACTS

8.1 Social Impacts

The EIS should describe any social impacts that may arise from the proposed project including, but not limited to:

8.1.1 an evaluation of the impact of changes in the quality of life due to changes in noise, traffic and air quality in neighbouring residential communities;

8.1.2 an analysis of the extent to which municipal, regional and provincial plans and policies related to population growth, land use, recreation, and transportation might have to be modified or changed as a result of the proposed project;

8.1.3 a review of the burden on municipal services (e.g., water, sewage disposal, garbage, fire protection, emergency measures) which may in turn affect the quality of services to the local community;

8.1.4 an assessment of any electro-magnetic interference which may disrupt communication systems such as television, radio and police communications; and,

8.1.5 an analysis of the effects of the proposed project on the level of passenger service.

8.2 Health Impacts

The EIS should describe any health impacts that may arise from the proposed project. The EIS should:

8.2.1 identify the potentially affected population including:

8.2.1.1 the residents of communities that surround LBPIA;
8.2.1.2 children in schools and day-care centers near LBPIA;
8.2.1.3 employees of businesses located near LBPIA; and,
8.2.1.4 employees who work on the LBPIA site;

8.2.2 describe the nature, incidence and costs of potential health impacts from the proposed project;

8.2.3 identify any sectors of the population whose health may be at particular risk from the proposed project; and,

8.2.4 describe methods of mitigating any adverse health impacts.

8.3 Schools and Institutions

The EIS should assess the noise impacts on schools and institutions (e.g., hospitals, seniors' residences) located in the communities surrounding the LBPIA. Transport Canada should select schools for study based on their existing and anticipated noise levels. In particular, at least one school that is now affected by noise, and one that is not now affected but may be if the proposed project goes ahead, should be selected for study. The assessment should:

8.3.1 identify, the schools and institutions currently exposed to various ranges of noise levels and the schools and institutions that would be exposed to similar ranges as a result of the proposed project;

8.3.2 establish the current baseline level of aircraft noise inside schools and other institutions;

8.3.3 describe how noise disrupts normal activities, such as speech interference, distractions, interruption of concentration, interference with quiet activities, recreation and relaxation, and whether extra-curricular school activities are or would be adversely affected;

8.3.4 estimate sound levels that may impinge on schools and institutions as a result of the proposed project compared with existing baseline levels, and should present information in terms of:

8.3.4.1 the magnitude of the sound level produced both indoors and outdoors at school sites and institutions by aircraft operations, and the duration and timing of such levels; and,

8.3.4.2 the frequency of various sound level occurrences during total operating hours of the school and institutional facilities;

8.3.5 examine how effects vary according to:

8.3.5.1 runway utilization (including effects of weather);
8.3.5.2 number of landings and take-offs as a function of time of day;
8.3.5.3 flight patterns;
8.3.5.4 aircraft altitudes; and,
8.3.5.5 types of aircraft.

8.4 Ground Access Systems

Any significant increases in flights at LBPIA, such as may occur with the proposed project, can be expected to result in increased demands on the intra-airport and surrounding ground access systems. While it must be recognized that the provision and operation of ground access facilities beyond airport boundaries is outside Transport Canada's jurisdiction, it is important that the impacts of airport activities on these facilities be known.

The EIS should:

8.4.1 describe LBPIA access policies and strategies proposed by Transport Canada;

8.4.2 evaluate whether the ground access facilities currently in place and planned near LBPIA are of sufficient capacity to accommodate both their currently predicted users and those additional users that would arise as a result of increased airport activity;

8.4.3 evaluate the impact on the level of service predicted for these facilities; and,

8.4.4 identify measures to accommodate the traffic if it is determined that a significant impact, such as increased traffic congestion, would result from the proposed project.

8.5 Economic Impacts

The positive and negative economic impacts and the overall economic implications for communities surrounding LBPIA, the Greater Toronto Area, Southern Ontario, the rest of Ontario and Canada likely to result from the proposed project should be analyzed. The impacts studied should include, but not be limited to, the effects on:

8.5.1 land accessibility and values for various use categories (e.g., commercial, residential, industrial, agricultural) and any changes which may result from the project;

8.5.2 expected changes in temporary and permanent employment (airport-related and other);

8.5.3 economic activity, business revenues and available services;

8.5.4 business aircraft operators;

8.5.5 business travellers;

8.5.6 tourists and pleasure travellers;

8.5.7 cargo shippers and carriers and the potential for and economic implications of supply disruptions or shortages;

8.5.8 the air transport industry, including both capital and operating costs;

8.5.9 costs to airport users that may arise out of delays resulting from the construction of the proposed project;

8.5.10 fuel consumption, by both aircraft and ground vehicles;

8.5.11 the potential loss of business to airports in the U.S.;

8.5.12 current and future employment in the tourism and convention sectors;

8.5.13 changes in municipal and provincial tax bases and revenues;

8.5.14 the potential for congestion at LBPIA to affect investment and expansion decisions of businesses currently located or considering locating in the Greater Toronto Area;

8.5.15 the degree to which congestion at LBPIA is projected to affect the transportation and warehousing decisions of businesses currently located in the communities around the airport; and,

8.5.16 the ability to provide aviation services, and the effect of congestion and variable airport capacity limitations on service reliability on, for example, business aircraft.

8.6 Regional "Spoke" Communities

It is important to review and assess Transport Canada's proposal in province-wide terms. LBPIA is important to the social and economic infrastructure of many communities that rely on LBPIA as a "hub" airport.

The impact of the proposed project on these regional stakeholders should be measured in terms of economic and social issues including, but not limited to:

8.6.1 the penalties and inconvenience of congestion on people and freight travelling to and from these communities;

8.6.2 the ability of companies in these communities to maintain their current businesses and markets as well as to expand and grow; and,

8.6.3 the impact of delays and congestion on the potential for new investment and new jobs in these communities.

9.0 MONITORING

Environmental monitoring programmes are required to establish existing baseline environmental conditions, the effects of construction activities, the effectiveness of mitigative measures, and the operational impacts of proposed new facilities and controls.

The EIS should describe:

9.1 existing monitoring programmes in and around LBPIA and any additional sampling required to establish baseline conditions regarding noise, air quality, and water quality in Etobicoke and Mimico Creeks;

9.2 the locations of sampling sites both on and off Transport Canada property which are needed to address environmental changes in adjacent neighbourhoods;

9.3 plans for monitoring the proposed project during construction and operation should it proceed;

9.4 the way in which monitoring programmes will be used to verify predicted effects and to determine whether mitigation measures are successful or should be modified; and

9.5 plans to make the results of the monitoring programmes available to the public on an on-going basis.

10.0 RESIDUAL EFFECTS AND COST

This section of the EIS should describe any residual impacts remaining after the application of mitigating measures.

For any residual effects of the proposed project that cannot be mitigated, the cost of measures that could be provided to those adversely impacted by it, should be estimated, including cost for:

10.1 noise annoyance;
10.2 property depreciation;
10.3 relocation; and,
10.4 sound insulation.

11.0 SAFETY

The EIS should describe:

11.1 any changes in the safety level associated with air transportation that may result from the proposed project, either in the air or on the ground, including any changes in safety levels that may occur at other airports;

11.2 the safety level associated with the proposed full runway and taxiway system, including any effects that may result from taxiing aircraft, land gradients adjacent to runways and low horizontal visibility conditions at LBPIA; and,

11.3 contingency plans for responding to any emergency situation affecting aircraft passengers and residents which may occur at LBPIA, both during and after the proposed construction.

12.0 PUBLIC CONSULTATION PROGRAMME

In order to complete certain information requirements of the previous sections, the proponent will have to conduct a public consultation programme during the development of the EIS. This programme should be announced to the public as soon as possible,

and should be documented in the EIS. Documents received by Transport Canada from groups, agencies and individuals during the preparation of the EIS should be available for public examination.

The EIS should describe the public consultation programme, including but not limited to:

12.1 a list of the groups, agencies and individuals contacted;

12.2 the opportunities provided for the public to obtain information and the methods and extent to which they were advertised; and,

12.3 the degree of public response.

13.0 APPENDICES

The appendices to the EIS should include:

13.1 a glossary of all technical and scientific terms used which may not be readily understandable by the public;

13.2 lists of references cited and literature used but not cited;

13.3 a list with the addresses of all consultants and government agencies associated with the development and preparation of the EIS and related evaluations, along with the names of the individuals involved;

13.4 copies of reports developed from studies associated with the development and preparation of the EIS; and,

13.5 copies of documents received by Transport Canada from interested groups, agencies and individuals during preparation of the EIS.